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09/682,168	07/31/2001	Marshall R. Moore	1287.02	9029
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SMITH HOPEN, PA 180 PINE AVENUE NORTH OLDSMAR, FL 34677			EXAMINER CASTELLANO, STEPHEN J	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/682,168
Filing Date: July 31, 2001
Appellant(s): MOORE, MARSHALL R.

MAILED
AUG 02 2007
GROUP 3700

Ronald E. Smith
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed June 7, 2007 appealing from the Office action mailed August 30, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Patents:

6267069	Keehan	7-2001
5601204	Hall	2-1997
5285920	McGarvey	2-1994

Official Notice and Prior Art Admissions:

1. Official Notice was taken initially in the final Office action mailed April 11, 2006 that polymethyl and rubber are well known insulating foam materials. Since this Official notice was not challenged, the Official notice was treated as a prior art admission in the final Office action mailed August 30, 2006.
2. Official Notice was taken initially in the final Office action mailed April 11, 2006 that vents for an interstitial space are well known. Since this Official notice was not challenged, the Official notice was treated as a prior art admission in the final Office action mailed August 30, 2006.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1 and 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall in view of McGarvey and Keehan.

Hall discloses an above ground tank for flammable liquid having secondary containment capability comprising an inner steel primary tank 12 (col. 4, lines 25-30), an outer steel secondary tank 20 (see col. 4, lines 33-34), within the interstitial space an inner layer (absorbing layer 70 of a polypropylene cellular sheet, see col. 7, lines 49-51) is adjacent to the inner primary tank and an outer layer of fire resistant polymer material (polymer foamed concrete 90, concrete mixed with ELASTIZELL foaming solution, see col. 8, lines 40-43 and lines 55-59). The tank construction is best shown in Fig. 8. Layer 90 is fire resistant because concrete is fire resistant. Layer 90 is a polymer because the layer comprises the ELASTIZELL foaming solution. The polypropylene cellular sheet is an insulating material. The polypropylene cellular sheet is most likely a foam material as this would be the most economical and readily available material to form the sheet. However, sheets of honeycomb construction or a sheet manufactured with recesses could also fulfill the cellular requirement and would not be foam.

Hall discloses the invention except for the insulating material being foam. McGarvey teaches insulating foam material (thermal barrier material 117, see col.3, lines 50-57) within the interstitial space between inner and outer walls of an above ground fuel storage tank. It would have been obvious to replace the cellular sheet material 70 of Hall with McGarvey's foam material to provide enhanced insulation without defeating the adsorbing function or permeability characteristics needed by this layer as foamed concrete, STYROFOAM, and urethane foam all

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allow fluid leakage to permeate therethrough. If it should be deemed that any of the foam materials of McGarvey restrict the passage of fluid, then it would have been obvious to make this modification in situations where thermal insulating is more important than leak detection.

If it should be deemed that McGarvey lacks a showing of two layers within the interstitial space or if it should be deemed that the rejection lacks a showing of sandwiched construction such that insulating foam material and the fire resistant material must contact each other, then Keehan is applied to show the two interstitial layers as shown in Fig. 9. Inner layer 88 and outer layer 98 form an interstitial space having an inner foam energy absorbing layer 92 (see col. 9, lines 7-9 of Keehan) and an outer fire resistant layer 94 (see col. 10, lines 8-9 of Keehan). It would have been obvious to add a foam layer between the inner layer and fire resistant layer to provide energy absorption to protect the inner layer so that the inner layer remains undamaged and maintains fluid containing capability and protects against spillage in a situation where the tank is impacted and damaged from the exterior. This is a safety feature.

Re claims 6, 7 and 9, McGarvey teaches these specific materials.

Re claims 8 and 10, It is noted that the Official notice taken in the previous Office action on April 11, 2006 that polymethyl and rubber are well known insulating foam materials has not been challenged. The Official notice was changed to a prior art admission in the final Office action mailed August 30, 2006. It would have been obvious to use these materials to provide easier installation as these materials flex easily around sharp bends.

Re claim 11, leak sensors are well known. It would have been obvious to attach a leak sensor to monitor the interstitial space to identify the end of usable life.

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Re claim 12, emergency vent 46 (see Fig. 1 and 2 and col. 6, lines 8-10 of Hall) is in communication with the inner tank and vents the inner tank.

Re claim 13, It is noted that the Official notice taken in the previous Office action on April 11, 2006 that vents for an interstitial space is well known has not been challenged. The Official notice was changed to a prior art admission in the final Office action mailed August 30, 2006. It would have been obvious to provide such vent to prevent an explosive mixture from becoming trapped within this space. This enhances safety and reduces the risk of catastrophic explosion.

(10) Response to Argument

Appellant refers to Hall's five layers. The extra layer of Hall (Hall has five layers) does not preclude anticipation since claim 1 contains open language, i.e., "comprising ..." to define the invention (see line 2 of the present invention's claim 1).

Appellant states that lightweight concrete (layer 90 of Hall) is a far cry from the fire resistant material disclosed. Appellant believes that concrete is precluded because the disclosure of the present invention is devoid of concrete structure. The claims were given their broadest reasonable interpretation in light of the specification. The specification doesn't preclude any type of fire resistant material. This means that any type of fire resistant polymer material could be used to meet the claim limitation. Hall's lightweight concrete comprising concrete mixed with ELASTIZELL foaming solution is a fire resistant polymer.

Appellant's argument alludes to the removal of the lightweight concrete material (layer 90 of Hall) or the replacement of lightweight concrete (layer 90) with the foam insulation of McGarvey. This is absolutely incorrect. The lightweight concrete (layer 90 of Hall) is heavily relied upon as a disclosure of a fire resistant polymer material sandwiched between the insulating material (layer 70 of Hall) and the outer tank 20. It is the insulating cellular material (layer 70 of Hall) that is replaced by an insulating foam material taught by McGarvey.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning as the Office used appellant's invention as a guidebook, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Appellant discusses McGarvey as if this reference were applied as a primary reference or even as an anticipatory reference. Appellant notes the deficiencies of McGarvey. McGarvey is a secondary or teaching reference and it has never been applied to show the complete structure. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Appellant alludes to McGarvey as being a better reference than Hall. Hall is a far better reference as it shows all the materials, except for the insulating material is cellular rather than foam, and discloses the proper positional

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order of the materials within the laminate. McGarvey doesn't show the proper position because the fire resistant material is located on the exterior of the outer steel tank.

(11) Related Proceeding(s) Appendix


No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

Evidence Appendix

Appellant has nothing submitted as evidence.


For the above reasons, it is believed that the rejections should be sustained.


Respectfully submitted,


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